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In This Issue

Salary Administration in the Commonwealth
Edison Company, BY A. B. GATES.

The Management Index

Abstracts and Descriptive Notes of Company Activities Including
Financial Management Production Management
Office Management Marketing Management

Survey of Books for Executives

Personnel Research in Department Stores, STAFF OF RESEARCH
BUREAU FOR RETAIL TRAINING.
Responsible Giving, MARK M. JONES.
Aus dem Arbeitsleben Amerikas, DR. JUR. FRITZ TAENZLER.
The Claim Agent and His Work, SMITH R. BRITTINGHAM.
Introduction to the Mathematics of Statistics, ROBERT WILBUR
BURGESS, PH.D.
Public Utility Finance, WALTER E. LAGERQUIST.
and others

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The MANAGEMENT REVIEW

February, 1928

Salary Administration in the Commonwealth Edison Company *

By A. B. GATES, *Assistant Manager of Industrial Relations*

Informal Discussion of Company Experience

IN THIS informal discussion of salary administration, the Committee wishes to bring out ideas and methods which have been found to be effective. The following statement of methods used by the Commonwealth Edison Company is made in the hope that it may contribute something of value to the solution of this very important management problem. We do not claim, in fact we do not believe, that our method is the most effective for all conditions or that it can be applied directly to all or any situations without change.

Attempt will be made to outline the methods which have been found effective in centralized control. The details of payroll procedure and time-keeping methods will not be dealt with, except as such treatment is necessary to emphasize or bring out the control methods in use.

A program set up for the purpose of centralizing the control or regulation of payroll procedure must be designed so that it will fit into the organization scheme of the company in which it is to be used. In detail, such programs may vary greatly in different companies, but in general, if the program is comprehensive, we can expect it to embody in some form most of the following items: Job Analysis, Job Descriptions, Job Grading and Classification, Salary and Wage Schedules, and on these items as a base, Salary and Wage Control Procedure including budgeting of requirements and Centralized Supervision.

I. *Job Analysis*

The foundation of any centralized administration of payroll matters is a complete analysis of all of the jobs or positions in the company organi-

* Presented at a conference of the A. M. A. Salary Administration Group, at the Palmer House, Chicago, November 5, 1927.

zation. This analysis must include a study of the duties of the job, tasks to be performed, and requirements, including such items as previous training, experience and minimum physical requirements. It should also include a study of the relation of each job to other jobs in the same department and in other departments of the company.

2. *Job Descriptions*

The results of the job analysis can be made effective only if the results of the studies are set up in standardized job descriptions setting forth the requirements so that grading and classification of the various jobs are possible.

3. *Job Grading and Classification*

In grading the jobs a method of grading should be developed so that the job can be classified not only with reference to other jobs in the same department but also with reference to jobs in other departmental groups.

4. *Establishment of Salary and Wage Schedules*

With all jobs in the organization graded and classified, and with a knowledge of the value of key positions, it is only a matter of adjustment to set up for the entire organization, salary and wage standards based on the value of the work to be performed rather than on the guess of a department head as to how the work in his department compares in value with that of other departments or with other institutions.

5. *Salary and Wage Control*

With salary and wage standards available it is then simply a matter of setting up the necessary procedure to provide for centralized control of wage and salary adjustments.

(a) A systematic payroll procedure is the first item to be included in such control.

(b) Salary increase budgets may be used effectively in such procedure.

(c) The payroll procedure should be headed up through the supervision of either a staff officer or a committee so as to insure uniform interpretation of rules, regulations and schedules.

Establishment of Company Program

1. *Present Set-Up*

The methods used for salary administration in the Commonwealth Edison Company include all of those enumerated as essential to salary administration. The Company has had centralized regulation of salary and wage matters since 1909. The present system, however, is an outgrowth of our experience in salary administration during a period of 18 years.

2. *History of Development of Methods*

In 1909, with about 3,000 employees and a comparatively large number of departmental groups, the management realized that, due to the tendency

toward increased specialization and toward a larger number of departmental groups, centralized regulation or control of payroll matters was becoming increasingly important.

Without centralized regulation, it was impossible to maintain uniform policy with respect to wage and salary increases. This lack of uniformity was tending toward unjustifiable differences in wage levels in the various groups.

3. Committees

A committee known as the Employees' Committee was appointed. Its membership included principal department heads so chosen that the Committee would include men who were familiar with the working conditions in all branches of the Company organization. The purpose of this Committee was to deal with all matters pertaining to the employees' working conditions with especial reference to salary and wage questions.

After functioning for a while, the Committee realized that in order to properly pass on the merits of department heads' recommendations for individual or group increases in rates of pay, it would be necessary to provide itself with information as to the character of the duties of the various jobs throughout the organization. Consequently, there was created a Subcommittee of the Employees' Committee known as the Payroll Schedules Committee. The membership of this Committee was taken from the main Committee. This Subcommittee was charged with the responsibility of conducting a study of all positions in the organization for the purpose of setting up a title, definition, and salary or wage schedule for each of these positions. It is interesting to note that the Chairmen appointed when the committees were first formed, have for over eighteen years, held these positions, and that the membership of these committees has changed very slightly in that time.

4. Job Descriptions and Schedules

With the help of outside consultants each position in the company organization was analyzed and a title and a brief description was prepared for each job. Schedules of rates of pay were established and, in 1912, the first complete classification of jobs with schedules of rates of pay was issued for the guidance of department heads in salary and wage matters.

5. Systematic Payroll Procedure

As a part of the classification of jobs a complete set of rules and regulations on payroll procedure was included. In establishing these rules of procedure, the Company followed the principle of making the executive head of each departmental group responsible for payroll matters in his group. This principle of centralized control with decentralized responsibility has not been changed throughout our experience with centralized salary administration.

6. *Aids to Centralized Salary Administration*

(a) Statistics

Statistics were compiled on salary and wage matters, living costs, turnover and other items so that this information could be used by the Committee in its work.

(b) Service Increase Budgets

In addition to this statistical information, the company in 1915 adopted the plan of setting up twice a year a budget of departmental requirements for service increases, that is, for increases that are made as a result of progress of the employee in a position. The term "service" is simply used to differentiate between this type of increase and an increase which results through a promotion from a lower to a higher position.

Present Payroll Procedure

1. *Scope of Committee's Activities*

All changes in the payroll affecting rates of pay of \$3,600.00 or less per year are passed on by the Employees' Committee. All changes affecting rates in excess of \$3,600.00 per year are passed on by the Vice-President in charge and finally by the President. In our discussion we will confine ourselves to what we call the classified service, that is, the groups of employees whose rates are \$3,600.00 or less a year.

2. *Department Heads' Recommendations and Committee Action*

All changes are initiated by the department head. His recommendation is submitted to the Committee and if it is regular as to amount of increase and service period since last increase, as prescribed in the schedules, the Committee action is automatic except that recommendations totaling an amount in excess of budget allowances must be amply justified. Any recommendation not in accordance with the schedules and rules, as to elapsed time or amount of increase must be accompanied by a statement from the Department Head justifying the special action. The Department Head can appeal from Committee action to his Vice-President. However, in practice this is not done, because the Department Head is held responsible, the Committee's principal function being to insure uniformity of action throughout the Company organization.

3. *Vice-Presidential Approval*

Departmental payroll change recommendations approved by the Committee are summarized, and recapitulations of these recommendations for the departments in his group are submitted to each Vice-President for his consideration.

4. *Presidential Authorization*

A totalized statement is then made to the President. This statement sets up all approved recommendations by Vice-Presidential groups and shows

the effect on the payroll for each group and for the Company as a whole. The President's approval of these changes constitutes the final order to the General Timekeeper and Paymaster to change the payroll records.

5. *Schedule Adjustments*

(a) On Department Heads' Recommendations

Any inadequacy of schedule brought to light by departmental recommendation on pay changes, or by a direct recommendation to change schedule is referred to the Payroll Schedules Committee. Comparisons are made as to the relative value of the position in question with other positions in the Company, and with outside rates of pay, and, if conditions warrant, change is made. If change is not warranted, a departmental recommendation for increase of pay above schedule maximum for an individual must be considered as a special case and justified as such by the department head.

(b) On Committee's Own Initiative

From time to time as conditions warrant, the Committee makes investigations of employment, wage and living cost levels and other factors, and also surveys the conditions within the company, so that it may initiate such action as is necessary to keep the wage and salary schedules in line with requirements.

6. *Budgeting Increase Requirements*

(a) Set-Up of Budget

Twice a year, in November and May, each Department Head is requested to submit a recommendation on his requirements for the following first and second half-year periods respectively. These recommendations should be based on current conditions and requirements. All recommendations are analyzed and summarized. In its study, the Committee takes into account current business conditions, living costs, turnover, comparing the current conditions and recommendations with those of previous years. After setting up the figures for the Company, the Committee calls in for consultation, those department heads whose recommendations seem to be out of line with conditions or with the average for the Company. When all differences have been ironed out or justified, the increase-budget recommendation for the Company as a whole is submitted to the Budget & Expense Committee.

(b) Application of Budget

When the budget is approved each department head is notified as to the amount his department is allowed for service increases during the ensuing six months' period. The approved amount is distributed over the six months in proportion to the departmental recommendations for the three two-months' periods. Increases may, however, be made effective at the beginning of any semi-monthly payroll period. Usually, they are effective on the first of the month.

If a department head exhausts his budget allowance, he must obtain an increased budget from the Budget & Expense Committee before the Employees' Committee can honor any further increase recommendations for his department.

Job Analysis and Job Descriptions

2. Brief Job Definitions Inadequate in Large Organizations

In eighteen years the number of employees had increased from 3,000 to 10,000. This change made it increasingly difficult to insure uniformity of application of schedules and rules because the brief descriptions of jobs could not be relied upon to give an adequate picture of the value of the jobs. Supplementary information submitted by the department heads was not entirely satisfactory because sufficient uniformity could not be obtained to insure correct interpretation of facts by the Committee, except at the expense of a considerable expenditure of time in investigation of each case.

During the period of its operation many jobs had been added. These additions had been necessary because of the division of work brought about by specialization. Departments had been divided into divisions and divisions into sections. All of these changes had contributed greatly to the difficulties of centralized regulation.

In 1926, the Business Research Corporation was called in to assist in making the necessary survey or analysis of jobs to set up more comprehensive job descriptions for the Company organization.

2. Selection of Method of Doing Work

After an extended study of methods which have been used successfully in job analysis and preparation of job descriptions, our selection rested between two methods:

(a) To have staff men go into the various departments, study conditions and write the description, or

(b) Have a smaller number of staff men supervise the work of analysis and job description writing, but have the actual work done by the department involved. Our Company has been consistent in maintaining that, as far as possible, all personnel work must be carried on by the line organization and since the second method seemed to fit into the general plan, it was selected.

3. Purpose of Job Descriptions

The main purpose of our descriptions had been to form a basis for standardized employment and salary administration procedure and this idea was to be retained in our new descriptions. Attempt was to be made, however, in the new descriptions, to make them more effective aids to the

department in connection with departmental job training programs and for the Company as a whole to suggest and encourage inter-departmental transfers.

4. *Analysis of Jobs*

Our procedure can be most clearly set forth by a description of method used in the Generating Stations. The same methods are used in all departments except that minor adjustments are necessary to fit the procedure in with each departmental organization. In the Generating Station group there are five main stations with from 200 to 400 men at a location. The work in these stations is divided logically into groups such as boiler room, turbine room, mechanics, etc.

The first step was to outline to the Superintendent of Generating Stations the need for and uses to be made of job descriptions. At a meeting which the Superintendent called, his principal assistants and the chief engineers of the main stations were given the same outline and convinced of the necessity of such descriptions. Thus, before any work was done, those in direct charge of the working forces were made familiar and brought into sympathy with what was to be done.

The Superintendent, with the help of his principal assistants and the chief engineers, selected committees for each division of the work, that is, a committee on boiler room jobs, one on turbine room jobs, one for mechanics, and so on. Each of these committees included representation from each generating station. A staff man from the Business Research Corporation or from the Industrial Relations Department acted as Secretary of these committees. After preliminary meetings, sufficient in number to enable each member of the Committee to become familiar with the purpose of the study and methods to be used, the actual work of analysis was started. The jobs were divided among the Committee members and preliminary studies made in accordance with outline guides furnished by the staff men.

The preliminary studies were then considered by the Committee and any differences brought to light were ironed out or subjected to further study. Finally, when agreement was reached a preliminary description was set up for each job. These preliminary descriptions were edited by the Business Research Corporation and put in final form so as to insure uniformity of style and set-up of content.

These descriptions were then submitted to a committee made up of the chief engineers and the Superintendent's principal assistants. The Superintendent acted as chairman, and a staff man as secretary of this committee. Any errors or apparent discrepancies discovered were corrected.

5. *Job Grading and Classification*

A grading or rating scale was prepared by the Business Research Corporation in cooperation with representatives of departments in which job

analysis was being carried on. In this scale attempt was made to define the degree of such items as:

- Executive responsibility
- Responsibility for property
- Responsibility for continuity of service
- Influence on economy of production,

and other items, fourteen in number. Instructions for this use of the scale were prepared.

When the job descriptions were completed, the men who had made the analysis and others were requested to grade the jobs by use of this rating scale.

In the application of the scale in several departments, discrepancies were discovered and ironed out and finally a rating scale was developed which could be used as a measure for groups of jobs varying greatly in nature of work and responsibility. This rating also served as a check on the descriptions and in a few cases, resulted in additional analysis of certain jobs to determine their true value as compared to other jobs in the group.

6. *Department Heads' Recommendation to Payroll Schedules Committee*

When all jobs for the department had been analyzed, descriptions written and jobs graded, the descriptions were arranged in logical order and a recommendation to the Payroll Schedules Committee prepared for the department head's signature.

This recommendation sets forth in table form all recommended changes in titles of job, re-classification of work, combining of jobs, or changes in pay schedules.

7. *Committee Action*

These departmental recommendations will be considered in groups so as to insure uniformity of action on corresponding positions in the various departments. When finally approved, job descriptions will be printed, master copies kept for employment purposes, for committee work, and a complete departmental set issued to each department.

Conclusions

In our work on job analysis as in all other phases of personnel administration, we have adhered to the policy of carrying on as much of this work as possible within the line organization. This is true in other phases of our salary administration program. We believe that if the departments are to function efficiently, the department heads must be held responsible, and it is neither fair nor good business to throw around them restrictions which will make it impossible for them to function properly. Hence, in all our plans, we have tried to adhere to the policy of centralized control, or regulation with decentralized responsibility.

THE MANAGEMENT INDEX

Abstracts and News Items

GENERAL MANAGEMENT

Which Way to Profitable Prosperity?

At the present time we are so pleased with business in general that we seem to have forgotten that there ought to be such a thing as prosperity and an end-of-the-year net profit. Most American industries have become volume crazy. Volume is obtained at a cost of sanity and profits. Another tendency is the unnecessary duplication of selling effort. Manufacturers are not satisfied with the way in which wholesalers push their goods, and so they put on specialty salesmen to supplement them, at first, and then to supplant the wholesalers. Then they increase their selling forces, more and more. Still another cause of unbalance is economic vanity; every business wants to have a national market.

Business men are slowly but surely beginning to understand that efficient management is not only an essential of bad times, and that general prosperity cannot long serve as a substitute for efficiency. By O. H. Cheney. *The Magazine of Business*, January, 1928, p. 24:4.

Corporation Soul Has a Cash Value

There are two things necessary to prevent a company from being regarded as soulless. One is such supervision of the work as will avoid a soulless attitude on the part of the individual employee. The other is loyalty to the company. The corporation is going to be judged by the acts of its individual representatives, and unfortunately there are employees in some organizations who are really as soulless as

corporations are reputed to be. Acts of kindness on the part of companies have news value, and make a powerful appeal to the public. Big companies ought to show more frequently and more pointedly that they have souls. By Fred Counterman. *Mill Supplies*, November, 1927, p. 81:2.

Human Engineering

Forward looking management, as well as far-sighted representatives of employees, are coming to realize that if full benefits are to be had from the creations of engineers, industry must be viewed as a co-operative undertaking in the advancement of which every supervisor and every employee is an important factor. They recognize that conflict between capital and labor is destructive of the interests of each; that it is unnecessary and mutually expensive.

The economic position of our workers has become the wonder of the world. The earnings of American wage earners in terms of what they can buy are probably greater now than at any previous period in American history; certainly they are far greater than those of the workmen in any other country of the world. In the face of these higher earnings our foreign brothers marvel at the coincidence of lower costs. The answer is that American workmen have come to realize that wages and profits are paid out of the same pocket-book and that the return to each must be proportionate to effort expended. American workmen are responding to the bid that is being made for their co-operation

and realize the important factor they are in the success of the business, and they appreciate that their employers under an enlightened human relations policy are striving to provide as high wages as can be paid consistent with sound management and the safeguarding of the investment and in line with general economic conditions.

But even with good wages and steady employment, the workingman is likely to lack one factor essential to his fullest efficiency and greatest interest in the company by which he is employed. This factor is ownership. A sense of proprietorship affords a powerful incentive to arouse interest in the performance of work. This principle has been the motivating influence of those who have been willing to take the risk incident to the building of all business. Its application to the wage earner in industry is relatively new, yet nowhere is the whole-hearted interest of human beings so necessary and vital to successful accomplishment. Recent years have seen a considerable growth in stock ownership by industrial employees.

The cornerstone of Bethlehem Steel Corporation's relations with its employees, in so far as their direct contact with the company in their daily job is concerned, is the employees' representation plan which was inaugurated nine years ago. To this plan and to good faith in living up to its provisions is to be attributed much of the gain in co-operation and good-will which we enjoy in our internal relationships.

Other features of human engineering from which benefits are reaped are the safeguarding of life and health, provision for support in old age and aid toward home ownership. By Charles M. Schwab. *Mechanical Engineering*, January, 1928, p. 1:5.

What Is a Leader?

A leader is both born and made. There are eight characteristics towards which he must work and train. A real leader builds his authority and the respect of his followers upon his genuine worth. His second quality is his marked eagerness to acquire all the new and better information about

his job. He is not only glad to learn from those under his direction, but he rejoices in their development and growth. Another outstanding characteristic of a true leader is to look for the good in his followers and to draw them on by praise rather than blame. A genuine leader gladly accepts criticism and willingly acknowledges his own mistakes. A further mark of leadership is to recognize personality and have a practical faith in men. Cheerfulness and a sense of humor are essential traits of a real leader. Finally a leader must not only know his own work thoroughly, but he must be able to see it in relation to life as a whole. This vision beyond his immediate duty gives him inspiration and a reserve of power and energy. These qualities of leadership are not necessarily inherited, but they can be developed by training. By Frank Slutz. *The Foremen's Magazine*, January, 1928, p. 4:1.

Progress in Management Engineering

A summary by the committee in charge of the Management Division of the A. S. M. E. Charles W. Lytle, Chairman. *Mechanical Engineering*, January, 1928.

Taking the Con Out of Conferences

The one best test of the wisdom of holding a conference is the same question which every business man must ask himself repeatedly: "Will this add to our net profits?" If the answer is yes, much may be gained by effective planning and arranging. By Walter F. Wyman. *The Magazine of Business*, December, 1927, p. 715:3.

When Germany Pays in Kind

German reparations payments "in kind" have their repercussion in the trade throughout the world. The amounts and character of these contracts effected between German firms and those in former allied countries are passed upon by the Reparations Commission in collaboration with the Transfer Committee. The goods move forward like any other export shipments and are not segregated from ordinary consignments. During the year end-

mg August 31, 1927, Germany made deliveries "in kind" valued at something over \$154,000,000. Among the miscellaneous items are such typical American export commodities as machinery, finished lumber, paper, textiles and glass. By Julius Klein. *Magazine of Business*, December, 1927, p. 697:5.

How to Safeguard Profits in Interstate Business

A corporation doing business in another state is confronted with as many difficulties as the one transacting business in a foreign country. A few illustrations are given. Explanations are given as to what constitutes doing business in another state, when it is necessary to qualify to transact business, what steps are necessary to qualify, and different methods of conducting business in a foreign state. By H. A. Toulmin, Jr. Kardex Institute, *Management Bulletin*, December 15, 1927, 4 pages.

What Do You Spend on Business Vanities?

Business is spending far too much on its vanity case, and advertising, above all, lends itself to use for vanity purposes. There is one simple test for this: Is it

"me and mine" in its motive? Or is the campaign a "you and yours" proposition?

Another vanity outlet is the skyscraper, which is largely an advertising medium, and as such, is becoming so common that its value is already questionable. It is prophesied that skyscrapers in New York will be torn down within twenty-five years, and as proof of this, it is stated that life insurance companies are already decentralizing. The huge home office—the Greek temple complex—is passing. Banks have also begun to spread out in branch offices in sections other than the principal cities. We are even approaching the English idea of a bank, as merely a place in which to buy and sell money.

Another form of business vanity is maintaining offices in large cities, to do work which could be done in factory-type buildings in outlying towns. Executives do not wish to humble themselves to working outside the large centers.

How far business vanity has entered into the great number of consolidations which have been made of late will be evident in the next few years. It may be that many an executive has shouldered more than he can carry. By James H. Collins. *Printers' Ink*, January 19, 1928, p. 3:6.

FINANCIAL MANAGEMENT

Plant Appraisals

The diversity and complexity of modern industrial plants, together with the wide fluctuations in prices, have made the valuing of such properties, on any basis other than cost, largely a matter of specialized engineering service. Aside from its engineering aspects the problem of appraisals is of a two-fold character, partly a question of managerial policy and partly of accounting method. A brief summary is presented of the arguments for and against the advisability of recognizing replacement values, and also the various methods are set forth by which the facts of such a

policy may be expressed in the accounts and operating statements, assuming that the policy has been decided upon. By G. L. Hull, December, 1927, p. 303:24.

Tax-Saving Suggestions

Large savings have been effected and much worry and trouble avoided by using a common sense method of taking inventory. In computing depreciation, it is inadvisable to use the same percentage with the diminishing value plan as with the straight line basis. In a tax adjustment, waivers, consents, agreements, or any other papers submitted by government tax rep-

representatives should not be signed without proper consideration and investigation. If a refund is received from the government it is important also to check up on this matter to see that interest is correctly computed. By W. B. Swindell, Jr. Kardex Institute: *General Business Advice*, January 6, 1928, 4 pp.

Some Essential Principles for Budgetary Control

Many of the essential principles for the application of budgeting to a business and the effective means for control are presented here in condensed form. Some of the means for securing budgetary control are shown in charts and statements of the following: (1) fundamental operating relationships, (2) comparative results of operation for different sales volumes, (3) manufacturing expense budget, (4) indirect labor control, (5) sales and production co-ordination, (6) sales quota, (7) department quota, (8) comparison of operating ratios. By Harold Vinton Coes. *Annual Meeting, A. S. M. E.*, December, 1927, 8½ pages.

Market Capitalization Rates of Industrial Earnings

While it is difficult to draw definite conclusions from a study of this kind, certain general observations can be made. It is hardly necessary to comment on the rates of capitalization as between industries. These rates appear in Table I and are self-explanatory evidence of the market's estimate of the normal and average rates of capitalization over the four-year period for the particular group of stocks. These rates vary from year to year, tending to decrease as profits decrease. Furthermore, the variations are greatest in industries subject to extreme fluctuations in earnings. In conclusion, it can only be reiterated that it is doubtful if any normal rate of capitalization of earnings can be computed by averaging several yearly rates and used in valuing common stocks with

any degree of success. On the other hand, a yearly rate can be computed and used as a starting point in valuing common stocks.

But even then it is absolutely necessary to make due allowance for numerous factors which tend to influence the value of a particular stock. Summaries of Business Research: *Harvard Business Review*, October, 1927, p. 75:4¼.

Financing Co-Operative Marketing Associations

This article describes the methods of financing employed in financing both the federated and centralized types of association.

The federation and the local associations composing its membership generally secure their fixed investment capital in three ways:

1. Common stock and occasionally preferred stock.
2. Demand notes signed by the farmer members.
3. Authorized deductions from sales returns.

The methods used by the co-operative associations in obtaining operating capital resemble more closely those used by profit-seeking enterprises than in the case of fixed capital. For convenience the methods of securing operating funds may be grouped under six main headings:

1. Sale of securities, supplemented by reserves.
2. Advances from members in the form of commodities.
3. Drafts drawn on customer or agent, or agent's bank.
4. Lines of credit from banks or commission houses.
5. Secured loans of various kinds, usually commodity loans.
6. Revolving fund supplied by members of the association.

By Gordon H. Ward. *Harvard Business Review*, October, 1927, p. 66:7¾.

Provisions of Industrial Preferred Stocks

The growing consciousness of a "community of interest" between all of the security holders of a single corporation (whether they be bondholders or stockholders) is one of the significant developments within the last twenty years. This very fact is one of the chief reasons why the use of preferred stock financing, rather than the sale of bonds is more appropriate for industrial companies, because, by the nature of the case, the earning of industrial companies tend to fluctuate quite widely with the periodic changes in the condition of business as a whole. There will be times in the life of nearly every industrial concern when its earnings will fall off or disappear and when, as a result, it is sounder policy in many cases to conserve every possible reserve of cash until better times shall have returned. Such a company can, if it is wise to do so, pass its preferred dividend and thereby stop a serious drain upon its resources in a critical time.

Various protective provisions of preferred stock issues are then described, such as the annual sinking fund to retire the issue over a period of years; the relation of surplus to dividends; prohibition of the increase in the amount of preferred stock, on consent of preferred stockholders, for further issues, voting privileges of preferred stockholders, etc. By Samuel W. Anderson. *Harvard Business Review*, October, 1927, p. 32:12.

Safeguarding Net Profits

It is recognized more and more that the success of a man in business depends more upon his skill as a prophet than on his ability as an executive and that external conditions exert a more potent influence on profit-making than do the internal influences. Gains resulting from the ability to foresee the future trends and to provide against them, far exceed the margin of real profit which competition permits. The following points are discussed: 1. The relation between cost and price is not arbitrary nor fixed. 2. What is produced regardless of volume or capacity should not absorb all overhead expenses. 3. Variations in prices of important or basic materials should not be included in cost. 4. Profit should bear a relation to effort expended and not to total cost. 5. Relative turnover of products should be considered. 6. The value of capital assets should not remain fixed. 7. Accounting for profit calculation and tax computation should not be limited nor governed by the earth's travel around the sun. 8. Administrative expenses should not be considered as being entirely commercial in character. 9. Direct costs should not absorb waste, idleness, and inefficiency. 10. Profit or loss is not a single item without reference to relative contribution of sales, purchasing, manufacturing or financial sides of the business. By C. E. Knoepfel. *The Society of Industrial Engineers Bulletin*, December, 1927, p. 3:4.

OFFICE MANAGEMENT

Organization: Job Analysis, Employment, Pay, Tests

Building a Better Banking Staff

In three years the Bank of Italy has had to build up an organization from 2,000 to 4,500 employees. These employees are really partners in the bank. As such they received eight million dollars in profits last year. In spite of this large distribution to employees, the bank doubled its dividends, and its stockholders profited by the increase in the value of its stock. In

its selection of employees the Bancitaly Corporation looks for the extra qualities of ability to learn, soundness, and versatility. The company prefers to train employees to its own methods; it prefers to have employees discover their own specialty and then specialize to the limit in their chosen work. Its personnel department gives systematic attention to every individual employee and to his peculiar relation

to the bank as a whole. A condition of employment is that employees must devote their future to the bank and the banking business to the exclusion of outside interests. This singleness of purpose is amply rewarded by the compensation and profit-sharing plans of the bank. By Hugh L. Clary. *American Bankers Association Journal*, January, 1928, p. 529:2.

Five Years of Agency Building in Review

The following ten general principles can be applied in building up any agency. A definite and reasonably attainable objective is the primary essential. This objective may be the quota set by the company or a goal chosen by the manager himself. How to reach it involves next a study of the agency's territory, which is a question of building strong units and adding constantly to their number. Another phase of this study is to determine the size of the working force needed with proper allowance for agency labor turnover. The third principle is a continuous and healthy organization growth. Here the chief factor is the agency's ability to train, supervise and successfully launch its agents. Better results are, as a rule, obtained with men of average ability. Lacking a Home Agency School, the manager needs a definitely outlined course of training for his men and should personally train them in

actual field work. This would include a correspondence course, supplemented by prepared lectures and assigned reading, and amplified by coaching on the job. The fifth principle consists in constant supervision of the agents through daily reports made to the manager, and used by him in analyzing their work. Another essential is a well organized service department, where agents may obtain new inspirational data or find help on prospects and programs. An efficient cashier's department is a further essential in good agency management. This means quick and courteous service both to agents and policyholders in the conservation of business. The eighth principle is strict, absolutely just and impartial discipline. In practice the method may be adopted of having agents settle their own disputes and bringing them to the manager for final decision only if no agreement is reached. The ninth essential consists of providing incentives. They may take the form of quarterly contests, or of weekly agency meetings, or of individual wagers between manager and men. The final principle concerns the manager's conduct and personality. He should be a leader of men; he should possess optimism, health, tolerance, and dignity, and be known as a boss whose chief concern is to make every agent successful. By D. Gordon Hunter. *Manager's Magazine*, January, 1928, p. 3:6.

Benefit Systems and Incentives: Pensions, Profit-Sharing, Suggestions, Vacations, Stock Ownership

Public Service Retirement Systems: State Employees

Acts for retirement pensions for state employees were passed by Massachusetts in 1911, by Connecticut in 1919, and by Maine in 1909, which was amended several times, the most recent amendment dating from 1925. The Connecticut and Maine systems are non-contributory. The Massachusetts system requires employees to contribute from three to five per cent of salary,

up to \$1,560. Maine and Connecticut include all regular state employees; Massachusetts provides also for employees paid partly by the state and partly by counties. This state imposes no service requirements, while Maine and Connecticut have 25 and 30 years' service requirements, respectively. In these two states the systems are administered by state bodies. In Massachusetts the system is administered by a board on which the employees have one or two representatives chosen by and from

among themselves. Massachusetts returns the employee's contribution with compound interest upon his death, dismissal or withdrawal. It also provides a pension, amounting to one-half of the final compensation, to the widow during widowhood, or to

children under a certain age, if the employee's death resulted from an accident or exposure while on actual duty. Maine and Connecticut make no provision for dependents. *Monthly Labor Review*, December, 1927, p. 30:16.

Training and Education: *Schools, Libraries, Employee Publications*

House Organs That Are Read

Don't start the publication of a house organ if your purpose can be accomplished any other way. Who does not receive more magazines now than he has time to read? The size, preparation, and costs of these booklets are discussed. Among a list of "Twenty Thoughts on House Organs," which contain the essence of experience in their preparation, are these: The same

qualities that make your star salesman successful will make your house magazine successful. The successful publication is always edited from the reader's point of view. Reprints of well-baked thoughts are better than original half-baked thoughts. If your house organ does not interest you, it won't interest others. By William Feather. *Kardex Institute*, Dec. 8, 1927. p. 4.

Records: *Forms, Charts, Cards, Files, Statistics*

An Effective Method of Form Analysis

A periodic review of office forms is essential to eliminate those which are obsolete or obsolescent. The Gilbreth Process Chart is particularly effective in tracing the use and final disposition of a form. In investigating office operations it is necessary for the interviewer to convince the employee that the interview is for the purpose of improving the procedure, rather

than checking the efficiency or ability of the employee in question. Such questions should be answered as: how frequently is the work done, where and by whom; how should the form be arranged; how much time is required. The size, weight, color and character of the form all should be carefully determined by its use. By Coleman L. Maze. *The American Stationer and Office Manager*, Dec., 1927, p. 12:4.

PRODUCTION MANAGEMENT

General: *Promotion, Organization, Policy, Development*

French Industry and Mass Production

Mass production has brought us into a new age in the history of mankind. The economic individuality of Germany and of the United States and even of Great Britain was not formed before the nineteenth century, but the French economic individuality was largely completed long before that and France is more adult than any one of the others. France is thus more than any other country confronted with the vital question: In order to comply with new circumstances and to survive as a great industrial power, must she give up

the very essence of her ancient economic activity, or does there remain, even now, some room for the traditional ways and means of the old French civilization? The problem is, in some respects, tragic, since it involves the very maintenance of the personality of a great people.

France has always been and remains chiefly a rural country. France is a country of handicraftsmen. It is largely a country of the bourgeois. Compared to the workingman, the bourgeois is essentially a man who possesses reserves. France depends on foreign trade neither

for imports nor exports. The result is a feeling of economic security. The sensation that the need of relying on foreign lands is not pressing. The Frenchman is essentially an individual; he loves personal independence; he prefers working alone; he is not a conformist. Real defects result from such facts. The French are inclined to ignore great things which are done outside. On account of that isolation, which is not always healthy, they are apt to lose that alacrity in making new improvements, in keeping step with most advanced ideas of efficiency, which is the very soul of American progress. The Frenchman, at bottom, believes more in the virtue of intelligence than in the methods which the experience of others has carefully prepared. He is sociable more than really social. It is suggested that several of the French qualities are out of date. The author says they belong to a civilization of artisans, of agriculturists, of refined society people. To what extent, therefore, are the French fit for mass production?

France is moving in two contrary directions, one developing and producing high quality goods and the other, in some lines, toward mass production. The second throws the French into the international current. There is considerable inclination to adopt American methods in some quarters. Acceptance of mass production shows some reluctance.

France must decide whether they must simply accept blindly the lessons of modern production and more important, to decide whether and to what extent this condition fits the conditions of present France. Some industries can continue to exist only if they are modernized, but others would be destroyed if standardization were introduced. There seems to be a special place for the traditional conceptions and qualities of the French. In order to succeed, there is no need for them to deny their own genius. It is necessary only that they should judiciously determine where this genius fits modern conditions and where it does not. By Anaré Siegfried. *Harvard Business Review*, October, 1927, p. 1:10.

Employee Service: Hygiene, Recreation, Lunch Rooms, Stores, Safety

How Employees Pay for Dentistry

A graduated scale of dental work rates at less than cost is in effect for employees of R. H. Macy & Co., Inc. The charges are as follows: 60 per cent of the fee for those receiving salaries of \$18.00 and under; 75 per cent for salaries of \$19.00 to \$30.00; 87½ per cent for salaries of \$30.00 to \$40.00, and full fee for those receiving a salary of over \$40.00. Consultation, advice, instruction as to care of teeth and mouth and emergency cases are all free services. *Retail Ledger*, December, 1927.

Men Who Have Accidents

This study reports some differences in proneness to accidents disclosed in the course of an inquiry made on behalf of a metropolitan street railway system. Differences in ability to operate a street-car or motor-bus with safety were found to cor-

respond with differences not only in training and in length of experience, but also in physical condition as indicated by blood pressure, and in skill in saving electric power as measured by automatic coasting recorders attached to the street-cars. By C. S. Slocombe and W. V. Bingham. *Personnel Journal*, December, 1927, p. 251:7.

Rest Pauses As Adopted by Five Industrial Establishments

In a survey made by the Bureau of Women in Industry it was found that the idea of organized rest pauses has as yet taken slight hold of industry in general. One of the firms which has adopted this plan is a large private laundry. In this institution rest pauses have been established for over ten years. A five-minute pause after each one and one-half hours of work was found to be the most satisfactory plan of all those tried.

In a large biscuit company all the employees have two twenty-minute rest pauses daily and a noon recess of fifty minutes. The working hours are forty-four a week. The work is all done by machinery and the workers are changed from one operation to another at regular intervals to prevent monotony.

A survey was made of a towel supply house where rest pauses have been in operation for over five years. There is a ten-minute rest pause at 9 o'clock at which coffee is served. The afternoon pause is

at 3 o'clock and lasts for fifteen minutes, during which time tea is provided. In a similar concern the morning rest is fifteen minutes long and the afternoon pause lasts for one-half hour. The time is devoted to coffee and rolls and talking.

Ten-minute rest pauses are given at 10 o'clock and at 3 in a factory where girls are employed in making batteries. In none of these places is there any organized form of recreation and no decrease in production has been noted. *The Industrial Bulletin*, December, 1927, p. 76:1.

Employment: *Classification, Selection, Tests, Turnover*

Test Your Man's Interests Before You Hire Him

One of the best methods is to make a common-sense inventory of the applicant's interests during the personal interview, and these should be noted by detail rather than by occupation. For instance, the occupation of machinist may involve fine attention to small details, or coarse work. The important factor is not the occupation of machinist but liking fine or coarse work. But it must be remembered that the correspondence between liking to do a thing and ability to do it is not always found. The most important fact is that morale is higher if the worker likes his work. By Donald A. Laird. *Factory*, December, 1927, p. 1015:1.

The Study of Personal Differences in Accident Liability

The point is made that individuals differ in their accident liability, and that the bulk of accidents in any industrial group is sustained by comparatively few individuals. On the other hand, we are not sure that it is possible to measure other qualities predisposing to a high accident rate, or to get a high correlation between any group of tests and accident liability, and the nature of the particular mental make-up predisposing to and protecting from accident. The statistical method can of course never provide adequate rule-of-

thumb tests obviating the need of careful study of each individual's intellectual and emotional make-up. By E. Farmer. *The Journal of the National Institute of Industrial Psychology*, October, 1927, p. 432:5.

Maintaining an Efficient Force of 1,500 Girl Operators

Experience of the Westinghouse Lamp Company in the manufacture of incandescent lamps and radio tubes. It has been found that a good class of girls do this delicate work better than men. Labor turnover has been reduced by careful selection and by transfer of those not suited to a certain type of work. Attention has been given to making the plant a clean, comfortable place in which to work. Heating, lighting and ventilation are controlled. A two weeks' vacation is given when the plant is shut down at the beginning of August for that period. Vacation money is paid at the end of September to all those who have been in continuous service for one year ending the middle of September. A girls' rest room, dance hall and cafeteria are provided. A branch office of a Savings Bank is in one corner of the dance hall. Careful work and reduction of spoilage has been stimulated by contests with cash prizes. By Francis A. Westbrook. *Industrial Management*, December, 1927, p. 333:4.

The Stability of Employment

The United States Department of Labor predicts that the stability of employment, marked in 1927, will continued in 1928. Losses resulting from price cutting have been borne by capital and management rather than by the workers. The wider mechanization of industry indicates that plant investment today is considerably higher in relation to labor costs and value of output. Stable production is, therefore, of more importance to management than to labor. Factors which have contributed to this stability of production are: Standardization of product; easier money rates; a smaller and better trained staff of workers; restricted immigration; the use of costly machinery. *Dominick & Dominick*, January 7, 1928, 2 p.

Unemployment—A New By-Product of Prosperity

There has been a marked decline in employment in manufacturing industries in 1927. There will not be a new movement to the land as the same forces are eliminating labor on the farm as in the factory. Surplus labor is gravitating toward luxury industries. The present trend of wages is downward. The Colorado Coal strike does not indicate a breakdown of the works council plan, but rather the increased mobility of pickets through the use of automobiles widened the effectiveness of organized intimidation. Interview with A. H. Young. *Iron Age*, January 5, 1928, p. 52:3.

Industrial Economics: Labor and Capital, Legislation, Wage Theory, Immigration

The Effect of Labor Laws for Women

The method of measurement adopted was to study conditions of women's employment before and after certain laws went into effect and to compare present conditions in States which were regulated by law with conditions in States not so regulated. Six manufacturing industries: boots and shoes, paper boxes, electrical machinery, clothing, and metal products were selected. Study was also made of women's employment in stores and as waitresses. In the manufacturing industries and in stores

legislation had not affected the position of women, nor opportunities open to them. In special occupations, indiscriminate application of hour and night work legislation had acted as a handicap to some women. This study indicates the practicability of the use of the interview as a method of research in a study whose object is to measure, or at least to isolate factors which depend largely on personal prejudices and the experiences of individual employers or workers. By Mary N. Winslow. *Personnel Journal*, December, 1927, p. 242:8.

Plant: Location, Lighting, Heating, Ventilation

Migration of American Industry

Twenty-three years ago the center of manufacturing in the United States as shown by distribution of wage earners was about 95 miles east by north of Columbus, Ohio. It is now about 9 miles from the center of Columbus. The south has shown a moderate gain, while New England's proportion has declined steadily. This movement may probably be attributed

to the tremendous expansion of the automobile. By Sidney G. Koon. *Iron Age*, January 5, 1928, p. 27:3.

Plant Location

Factors to be considered in locating a magazine publishing plant and a cotton mill. By Charles P. Wood. *A. S. M. E. Management Division Meeting*, October, 1927.

One-Story or Multi-Story Factories?

A comparison of two projects for the same manufacturer in which the advantages of a modern one-story factory are

apparent, at least whenever a central location on expensive space is not absolutely essential. By Tyler Stewart Rogers. *Manufacturing Industries*, November, 1927, p. 361:6.

Benefit Systems and Incentives: *Group Insurance, Pensions, Vacations, Profit Sharing, Wage Plans, Suggestions, Stock Ownership*

Fifty-Eight Employees Awarded \$1,015 in Suggestion Prizes

The Schenectady Works of the General Electric Company granted in December, 1927, awards totaling \$1,015 to 58 employees for suggestions adopted by the suggestion committee. Two workers received prizes of \$100 each, one of which was an additional award for a former suggestion that had proved very efficient. One employee received \$75; three were given \$50 each; three others received \$35; five employees, \$25; three employees, \$20, and three others, \$15; 11 employees were given \$10 and 28 employees \$5. *General Electric News*, January, 1928, p. 6:2.

A Profit Sharing Distribution

On December 15, 1927, the Jewelers' Supply Co. of Providence, R. I., put into effect a profit-sharing system, which is to be continued permanently by the concern. The board of directors set aside for distribution this year 5 per cent of the amount paid any employee who had been continuously with the company for the year ending on the above named date. If an employee had been with the concern for less time, then his share of the profits was based on the rules governing part-year periods. For the current year the company distributed approximately \$3,000 among its employee force. *The Manufacturing Jeweler*, December 22, 1927, p. 15:1.

Electrical Workers' Old Age Pension Plan

The International Brotherhood of Electrical Workers adopted a pension plan at its nineteenth biennial convention, held in Detroit in August, 1927. Any member, 65

years of age, having been in continuous good standing with the organization for 20 years prior to applying for an old age pension, is eligible to a monthly benefit of \$40. Moreover, his regular union dues are paid out of an additional \$2 appropriated from the fund. No pensioner is allowed to do electrical work of any kind for any one, either for compensation or gratuitously. *Monthly Labor Review*, December, 1927, p. 88:1.

Workers' Savings

The U. S. Bureau of Labor Statistics has recently published summarized final results of various methods used by employers to encourage thrift among employees. The survey is based upon 430 concerns. Thrift inducements on each pay day were reported by 196 companies. Building and loan associations, or some other form of financial assistance toward employee home ownership, were reported by 29 concerns. Seventy-two loan funds were maintained either by the company or as part of the savings plan. One hundred and twenty-three companies had special plans for employee stock ownership, and about 50 concerns had profit-sharing bonus systems. Many corporations promote employee cooperative buying of certain commodities, or allow a discount on their own products; but only 21 companies actually report cooperative stores. Vacation and Christmas funds were other forms of employee savings encouraged by industrial organizations. Nearly two-thirds of the companies surveyed stated offering their employees free legal advice or advice on investments and expenditures. Among the savings schemes described the system of savings machines, automatically

stamping the savings amount deposited on the employee's deposit slip, was said to appeal most to the employees because of the ensured privacy. International Labour Office. *Industrial and Labour Information*, December 5, 1927, p. 302:1.

Employee Stock Ownership

Some business concerns which have gone to much trouble and expense to distribute stock on easy payment plans often discover, shortly after all instalments have been paid off, that many of the employees have sold their stock. The International Paper Company discovered a simple and effective answer to this: the company now pays a bonus over and above the regular dividend to employees who keep their stock. The bonus begins at \$1 a share at the end of

the first year and increases at the rate of \$1 a year until \$5 a share is paid at the end of the fifth year. *Printers' Ink*, January 19, 1928, p. 206:1 col.

Company Proposes Revised Pension Plan and Establishes Pension Trust

The General Electric Company has established a new pension plan effective as of January 1, 1929, whereby the employees can augment by consistent savings the amounts they would receive under the pension plan as it has been in effect for some years past. The details of this plan are set forth, and a table is shown giving the results for different rates of pay and lengths of service. *General Electric News*, January 6, 1928, p. 1:2.

Training and Education: Schools, Libraries, Apprenticeship, Employee Publications, Bulletin Boards

How to Develop Better Foremen

The use of the word training in connection with foremen is unfortunate. Rather than instruction, what is needed is unqualified support from those to whom he is responsible, a better understanding of what is in their minds, friendly criticism, helpful suggestions and, above all, practical aid in the solution of problems frequently occurring which are perhaps foreign to his knowledge and experience, or the ramifications of which extend to other departments over which he has no jurisdiction. A recognized official in whom all have confidence should be authorized to clarify the industrial atmosphere. Tact is essential to the success of any such program. By C. W. Burgess. *Iron Age*, December 29, 1927, p. 1795:2.

A Lecture and Demonstration Course in Industrial Safety

The National Association of Foremen and the Springfield, Ohio, Foremen's Club are cooperating with the Extension Department of Wittenberg College in the arrangement of a course on "Industrial Safe-

ty and Hygiene" during 1928. A series of 12 lectures are being given bi-weekly, six on industrial safety and six on industrial hygiene. The formal lecture is followed by a period of open discussion, to which class members may bring any particular phase of the subject matter which is a local problem with them. The fee for the course is \$10. Meetings do not conflict with the regular meetings of the Foremen's Club. By W. H. Blough. *The Foremen's Magazine*, January, 1928, p. 12:2.

What it Means to Be a Foreman

Here is a message from a Cleveland foreman, who speaks from experience, to his fellow foremen, to aspirants for a foreman's job, and to management who holds him responsible as the top sergeant in industry." He conceives foremanship as supervising, managing, and teaching. The creed he proposes for foremen may be summarized as reading: Give every one a square deal. Set a good example in personal habits, self-control, punctuality, conformity to rules, knowledge of the busi-

ness. Be considerate and firm. Carefully transmit all company orders and instructions to the workers. Don't be a knocker, but offer your criticisms or suggestions clearly and frankly to the person responsible. Treat workers as human beings.

Show your interest in their personal success and welfare. Do all this and you will win the respect, confidence and hearty cooperation of your gang. By Albert Gregg. *Trained Men*, January-February, 1928, p. 3:5.

Rate Setting: Operation Study, Time Study, Motion Study

Skilled Workers and Motion Study, Your Assets

Motion time analysis has disclosed that there are many workmen who are working at a routine job earning mediocre pay, striving to prevent some short-sighted engineer, manager or superintendent from cutting the rate, when he has ability which would carry him far beyond worry over the rate on any job. Any solution of an industrial operation must have these characteristics: The man must have: 1. The right job. 2. The correct physique. 3. The correct method. 4. The correct instruction. 5. The correct payment.

The firm must have: 1. The right employee. 2. The correct cost. 3. The correct time for instruction. 4. The correct quality. 5. The correct delivery of goods.

The engineer is responsible for: 1. Knowing the correct method of performing the job. 2. Knowing the correct time to perform the job by the best method. 3. Knowing why a definite method will result in a definite time. 4. Knowing why the man does not get the work done in a standard time. 5. Being able to tell the man how to attain the standard time. 6. Knowing the proper equipment to perform the job. 7. Knowing the personnel requirements of the job. 8. Knowing the char-

acteristics of the office system necessary to obtain the results required. By A. B. Segur. *The Society of Industrial Engineers' Bulletin*, December, 1927, p. 11:5.

What Are the Benefits from a Time Study?

Some of these are: 1. It uncovers any faulty methods of operation of either men or machines. 2. It uncovers any unfavorable shop conditions, such as one operation or department being insufficiently supplied by another department upon which it is dependent. 3. It shows the proper time an operation should take, enabling a fair price to be set on the job. 4. It gives an equitable basis upon which to figure the efficiency of individual operators and departments. 5. It enables the management to keep operations and man loading in proper balance. 6. It makes possible the figuring of accurate costs. 7. It enables an accurate estimate to be made of future costs. 8. It supplies a proper basis for developing an accurate shop schedule. 9. It assists definitely in making possible an accurate system of budgetary control. 10. It gives a proper basis from which selling prices may be figured. By J. D. Towne. *The Merry Thinker*, January, 1928, p. 1:1.

Shop Organization: Planning, Methods, Job Analysis, Standardization, Waste

Linking Maintenance with Production and Costs

"The Non-Productive Planning Department was organized to take over the scheduling of all work involved in equipping and maintaining machine and tool require-

ments. It is substantially a service department charged with the responsibility of keeping the plant and equipment in condition to do productive work and aid the Production Department in holding to their production schedules. It is the direct con-

necting link between the productive and non-productive work, and its object is to supply, when needed, efficient and economical equipment and center its efforts on studying the types and kinds of equipment that will do the work and give the most satisfactory service." By C. L. Bonnett. *Industrial Management*, December, 1927, p. 343:4.

Handling Efficiencies Cut Cost of Automobile Production

Experience of the Oakland Motor Car Co. in production layout, and special types of conveyors. By A. J. Brandt. *Canadian Machinery and Manufacturing News*, Dec. 8, 1927, p. 17:5.

Laborless Handling at Pillsbury Mills

The first of two articles describes thousands of feet of conveyor system operated through automatic central control board accomplishing remarkable economies in the loading of bags of flour and feed. By Frank D. Campbell. *Manufacturing Industries*, December, 1927, p. 447:4.

MARKETING MANAGEMENT

Some Business and Legal Aspects of Resale Price Maintenance

Deprived by court decision, which was upheld in the Beech-Nut case, of the use of express contracts to maintain resale prices, business men soon realized that resale prices could be maintained by non-contractual means, and as a result the policy was gradually adopted of requesting that a certain price be maintained and of refusing to deal with customers who failed to conform to this request. The courts have consistently upheld this practice on the grounds that it is the "undoubted right of the trader" to refuse to sell to whomsoever he pleases, but in the Beech-Nut case the court, while still adhering to the theory that the manufacturer could refuse to sell to price cutters, declared illegal various

Shall We Buy This New Machine?

A discussion of the considerations by which two companies decided on whether or not a new machine ought to be purchased. Case Studies in Business. *Harvard Business Review*, October, 1927, p. 101:5.

Progress in Materials Handling

A Summary by the Materials Handling Division of the A. S. M. E. R. H. McLain, Chairman, *Mechanical Engineering*, January, 1928, p. 13:5.

Simplified Production Control

The signaling system described in this article for directing work in the various divisions of a plant that brings in close touch the control department and production departments, all centralized so as to be under one-man control, is rather new. The flow of work in process and its control are ingeniously taken care of. Signaling is accomplished in a manner similar to that of a dial telephone, except that the information is transmitted by symbols, not by speech. By K. R. Wood. *Industrial Management*, December, 1927, p. 350:3.

methods likely to be used by the trader in an attempt to maintain stipulated resale prices.

The article also considers the manufacturer's reasons for desiring to maintain resale prices and other legal aspects of the customer. Legal Developments Significant in business: *Harvard Business Review*, October, 1927, p. 114:6½.

Department-Store Expansion

Several corporations, such as the May Company and R. H. Macy & Co., Inc., have expanded by means of horizontal combination. Other smaller combinations indicate the tendency at present for department stores to extend their activities by buying going concerns. At the present time the department store field seems to

be at the crest of a wave of department store consolidations, caused more by investment bankers trying to create securities to absorb plentiful easy money than by the prospective economies from joint operation. Although there are some pitfalls and many advantages in horizontal combinations, it is as yet too early to say whether the new consolidations have been successful and whether horizontal combination is the most logical method of future expansion. *Case Studies in Business: Harvard Business Review*, October, 1927, p. 81:8¾.

Factors Affecting the Marketing of Tri-State Zinc Concentrates

A rather technical article outlining methods of marketing a particular class of raw material. By M. D. Orten. *Harvard Business Review*, October, 1927, p. 57:8½.

The Credit Man—Creator of Sales

If the credit man is alert to the possibilities of his position he can create as much profitable business as any salesman on the force. It is his pleasant and important duty in some cases to inform the sales department that there is a certain man worth going after and developing, that is, he does not have to wait until the salesman brings in the larger order for him to pass upon. He can satisfy himself in advance as to the dealer's capacity for paying for more merchandise. Starting off an account properly is supremely important, but if mistakes are made the credit man, better than anyone else, can search them out and indicate the remedy. By George J. Gruen. *Printers' Ink Monthly*, December, 1927, p. 29:3.

Store Holdups: How to Guard Against Them

The following are the protective plans in use against holdups and burglary risks. (1) Unless the store is equipped with burglar-proof safes, it is wise to have on the premises a minimum of cash register money, usually from \$25 to \$50. (2) Make daily bank deposits, several times a day or

even hourly, if necessary. (3) Choose the nearest bank and make arrangements with it for deposits at special times. (4) Be irregular in habits of depositing money. (5) If personal or frequent deposits are impracticable arrange for collection by the bank in armored cars. (6) Make special deposit arrangements during holiday seasons. (7) Have an anchored safe and place it in a conspicuous place in the front of the store. (8) Carefully select absolutely reliable employees. (9) Carry hold-up and burglary insurance. (10) Do not attempt to fight the robber. By H. R. Simpson. *The Manufacturing Jeweller*, December 1, 1927, p. 9:1.

Leasing Versus Instalment Sales in the Marketing of Manufacturers' Equipment

Rightly used, installment credit is a device which will increase the profits on many expensive and durable producers' goods by widening the market to include worthy customers needing long terms of payment. *Case Studies in Business: Harvard Business Review*, October, 1927, p. 89:6.

The Present Status and Future Prospects of Chains of Department Stores

Chains of department stores will dominate the retail field before very long. They will have six outstanding characteristics as to organization: 1. They will cater to customers of all degrees of buying power. 2. They will concentrate on three full line price levels. 3. Departments will be highly specialized. 4. Buying will be centralized to a large degree. 5. A delicate balance between centralization and decentralization will be maintained. 6. Policies will be based on facts, not on opinions. The obvious and logical way for these chains to develop is for existing independent department stores to get together. If they hesitate too long, the chain will develop in another way and make serious competition for the existing department stores. By Edward A. Filene. Address

delivered before the American Economic Association, Washington, D. C., December 27, 1927, 15pp.

Installment Selling in France and Germany

Partial payment system is gaining headway slowly in France, but in Germany it is charged with "fast becoming a national danger."

The French installment system is that the creditor first becomes a member of a type of savings bank scheme, getting credit instead of interest on the money he has invested for the first payment. The customer pays no interest and the organization

which makes the arrangement for the installment payments is supported by discounts given it by the stores. At present, one large credit organization has twenty department stores and several hundred specialty stores on its list * * *

In Germany the friends and opponents of installment selling have divided themselves into opposite camps, each feeling very strongly that its opinion is right and that the other is entirely wrong. Nowhere have so many systems been introduced, nowhere has installment buying been so haphazard and open to such enormous risks * * * By Albert G. Laney. *Retail Ledger*, First January Issue, 1928.

Sales Promotion: Letters, House Organs, Advertising

A Study of the Influence Advertising Exerts on Sales

Advertising is being questioned both as to its economic value and its power as a sales force. The purpose of this report is to provide facts obtained from responsible, representative firms, with long experience in advertising, as to exactly what they have secured through its use. Report No. 260. *The Dartnell Corporation*, 18 pp.

The Sales Value of Trade Marks, Trade Characters, and Slogans

These are playing an increasingly important part in merchandising campaigns today because of keen competition in all lines, making it necessary for the public to have some way of remembering a particular product or line of merchandise even though the name of the product be forgotten. However, unless a slogan offers real sales help to salesmen and distributors it lacks the highest qualification of an identification mark. To do this it must be easy to pronounce and not require the use of a dictionary, and must also be original. By Robert C. Fay. *Kardex Institute: General Business Advice*, December 30, 1927, 4 pp.

Over \$52,000 a Year Saved by Co-operative Advertising

In Washington, D. C., during the spring of 1926, the District of Columbia Bankers' Association ran a series of educational advertisements over the title of the association, in which they took the public into their confidence and showed the bank's place in the community. All of the members of the association contributed to the cost of the campaign; the results have been very satisfactory.

In a number of the large cities methods have been adopted for the elimination of unprofitable advertisements solicited by various organization which depend upon having a claim against the bank through accounts carried or personal relations with the bank. In some of these cities a card is given only to the solicitor of newspapers and other publications approved by the clearing house or advertising committee. By Eliot H. Thomson. *The Bankers Monthly*, January, 1928, p. 16:1.

How to Subdivide a Mailing List

The best method for subdividing a mailing list is by employing strongly contrasting colored cards. As many as five con-

trasting colors may be used. They are superior to colored index tags, which may easily be knocked off or mixed up. Specialization may be carried still further by maintaining, for instance, a single master list with five principal subdivisions. Each of these subordinate lists may again be subdivided by means of another set of cards. For a special mailing care should be taken in picking out all cards of one color and replacing them accurately upon completion of the mailing. *Printers' Ink*, December 29, 1927, p. 96:1.

A Sales Training Plan That Makes Salemen Want to Study

The basis of the training program of the Commercial Furniture Company is a series of five lessons, one a week for five weeks, at the conclusion of which there is a test or examination. The first section of the course deals with the company, tracing its history from its founding through its growth and expansion up to the place it occupies in its industry today. Section Two takes up construction standards and methods. It is technical information prepared in an untechnical way. Section Three deals with the final assembly and packing of the products and is in effect a personal trip through the plant. Section Four branches out into an explanation of period suites, which gives the company an opportunity to bring the completeness of its line to the attention of salesmen. The selling phase of the business occupies the fifth and

final section. It summarizes the factors leading up to the sale, not of office furniture alone, but office furniture service.

Under this plan every retail salesman has access to everything he needs to know about office furniture in one compact volume. At the conclusion of his course each salesman receives a layout of a typical suite of offices. His problem is to present a proposal which will take every factor into consideration. By John L. Scott. *Sales Management*, December 24, 1927, p. 1113:4.

Give the Catalog an Index—Two in Fact

The purpose of an index is to cause customers to read, understand and know a catalog and to order more intelligently from it. A really good index usually indicates a high-class catalog. Best results are obtained with an index divided into two sections: one referring to departments, the other to items. A department index is often the more valuable because it encourages and promotes the "leafing-through" habit. The front section of a catalog should contain an interesting reference to the location and effective use of an index. Two of the largest mail order houses have found by experimentation that the most logical and psychological location of an index is the center of the book. Backed by pages of heavy stock, the catalog will almost automatically open to the index section. *Printers' Ink*, December 29, 1927, p. 129:2.

Buying, Receiving, Storing, Shipping

A Problem in Cash Discount

Where merchandise is sold f. o. b. shipping point, freight allowed, and a cash discount for prompt payment is offered, the title passes to the buyer when the goods are delivered by the vendor to the carrier; subsequent risks and charges incidental to transportation are matters for settlement between the buyer and carrier. The method of making allowance by the seller to the buyer for freight charges, in the absence of specific provision in

the terms of sale, is optional with the seller, subject to the observance of justice and propriety toward the buyer. Case Studies in Business: *Harvard Business Review*, October, 1927, p. 110:3½.

Traffic Congestion

Some of the ills of traffic congestion may be removed by such an experiment as that which is being carried on by R. H. Macy & Co., Inc. The store has established a warehouse miles away filled with bulky

goods such as furniture, carpets and housewares. Samples of all these are on view in the store itself. Sales, as made, are reported to the warehouse, from which during the night trucks carry the goods to substations at various points in and near New York, whence they are taken away the next day for delivery to customers.

In regard to the merchandise coming to the store from manufacturers and wholesalers, it is arranged to have part of this delivered during the night hours, and as fast as shippers can be persuaded to cooperate, more and more of this will be done at night.

Two other large New York stores are following the same plan except that shipments to the store from the jobbers and manufacturers are still being trucked by daylight. *The Loop*, January, 1928, p. 2:2.

Economics of Motor Freight Transportation

Comparing the truck with its two alternatives at the two ends of its working range, we find that in general the larger the shipment, the longer the haul, or the less the handling time needed, the more likely it is that the goods should go by the larger capacity agency, truck rather than horse, and rail rather than truck.

Perhaps the railroads will presently be prepared to take goods at the shipper's door, move them by rail or truck or by both, as best fits the particular case, and deliver them to the receiver anywhere as a single transaction.

This article outlines the basic laws of truck operating costs. By Roy T. Wells. *Harvard Business Review*, October 27, p. 11:8¼.

Benefit Systems and Incentives: Group Insurance, Pensions, Vacations, Profit Sharing, Wage Plans, Suggestions, Stock Ownership.

A Producers Club Whose Members Sold \$70,000 Each Last Year

Last year less than a thousand salesmen alone were responsible for sales of over 70 million dollars worth of Dodge Brothers passenger cars and Graham Brothers trucks. In order to reward them for last year's work and to encourage them in keeping up the same pace during 1927, Dodge

Brothers early in the year organized them into a group known as "The Producers' Club." To qualify for membership, the salesman must have been with the company a year and his total number of points must total 50. There are four separate divisions—one for 50 points, one for 75 points, one for 100 points and one for 125 points. *Sales Management*, November 12, 1927, p. 837:2.

Salesmen: Selection, Training, Compensation

Mental Tests for Selecting Salesmen

There is no direct relationship between mental alertness, as measured by standard tests, and success in selling, except in the lowest and highest grades of sales jobs. In the more complex sales jobs there is a direct positive relationship between intelligence and length of service. Other mental, as opposed to physical traits, such as aggressiveness, sociability, perseverance, and morality, are more important for success in selling than is general intelligence. Each company must first develop its own stand-

ards by experimentation, that is, it must determine first of all how well the test differentiates between good and poor salesmen in its own organization. By H. G. Kenagy. *Kardex Institute: Management Bulletin*, January 12, 1928, 4 pp.

One Salesman-Owned Car May Cost You \$7,500

One of the country's largest employers of salesmen recently made a thorough study of its financial responsibility for physical injuries and property damage caused by

cars operated and maintained by its salesmen. As a result it was decided to undertake an extensive program of public liability and property damage insurance to provide complete coverage against this financial hazard. The experience of the company is given. By Alan Streeter. *Printers' Ink*, January 12, 1928, p. 17:4.

A Study of Plans and Methods for Training and Developing Salesmen

The plans and methods presented are limited to those in actual use by representative concerns. They can be used by the average firm, regardless of its size or location. The data covers both informal methods of training and the use of more ambitious programs. It was found that for the larger companies, and for companies selling technical and speciality products, the most effective way to train and develop both new men and senior salesmen is through some definitely organized program, of which the training school is the most popular. *Report No. 258*. The Dartnell Corporation. 18 pp.

College Recruits Succeed in Store

Retailing today offers opportunities to the college graduate which can be found in few other types of business. Retail distribution has become so complex and specialized in its many phases and has required the development of such exact methods that today its processes are rapidly becoming scientific. The difficulty has been in adjusting the college graduate to his surroundings after he has entered a store, and this has led to the formation of a training squad.

To gain admission to the training squad of the Macy store the college graduate, or others of the store personnel with the equivalent of a college training, must pass an examination and otherwise indicate that he or she is of promotable material. The training covers a period of six months, the first part of which gives a varied experience on the selling floor. The second part gives a thorough knowledge of the operating procedure of the store as a whole.

The last nine weeks are devoted to special assignments in an effort to determine in which of the four divisions—merchandising, management, finance or publicity—the final placement shall be. An opportunity is then given for each squad member to apply for some position open at the time. *The New York Times*, January 15, 1928.

Let's Not Discourage Imagination in the Salesman

Various instances are given of salesmen who had new and original ideas about their products and when these ideas were presented to their sales managers in the form of suggestions for new uses, the men were criticized. Why is it that some firms discourage vision, initiative and imagination in their salesmen? The braver and more energetic of the men resigned, to take their ideas to rival concerns. Then there are cases where a salesman's suggestions have been put into effect, but the man himself has never received so much as a "thank you."

The modern salesman is, and should be, more than a mere automaton, and the best ones as a rule are those who practice personal initiative. By W. R. Heath. *Printers' Ink*, November 24, 1927, p. 53:3.

The Lone Pupil Method of Training Salesmen

It was found by A. A. Vantine & Co., Inc., that a crowded roomful of new salesmen made worth-while training impossible. Now the company hires one or two men only at a time. The instruction is not given them by one official teacher, but the district sales managers, under whom they are to work, drift in and out of the classroom in what seems an unpremeditated fashion, each taking up points from actual experience. The result is that the interest of a new man is kept on the alert. The sales managers go through, with each man, the history of every account on his territory. He learns what his customers are buying and what the difficulties are. The executives are also enabled by this method to size up the men thoroughly, to

understand them better, and to deal with each one specifically and directly. By Victor Lebow. *Printers' Ink*, January 5, 1928, p. 49:3.

Salesmanship

Valuation of Plates and Publishing Rights

A few definite deductions are drawn:

1. In copyrighted books of large sales, the plates or machinery of production are inseparable from the copyright or the right to publish.

2. In copyrighted books of small sales, the plates are the important item, and without them the copyright is valueless.

3. When the books cease to sell, the only value connected with them is the metal value of the plates.

4. With the great mass of books, the real value from the point of view of the publishing house itself depends on the skill and ingenuity of the personnel in devising ways and means of selling them. By James Duncan Phillips. *Harvard Business Review*, October, 1927, p. 44:12¼.

The Manufacturers' Agent as a Channel of Distribution

From the foregoing cases it appears that the employment of a manufacturers' agent is justified where the products to be distributed require more aggressive sales effort than can be expected from a wholesaler, and where it is not deemed feasible to undergo the expense of maintaining a

sales force or factory branches. These conditions are likely to be encountered in the distribution of accessory equipment for industrial purposes.

The agency arrangement is often found suitable for the introduction of a new product, or for entrance into a new market by a manufacturer with distribution already established in other territories. In such cases it may be regarded as a form of pioneer distribution to give way to the manufacturer's selling force or to factory branches after adequate distribution has been built up. Of course, in a region of meager market potentialities the pioneer period may be of long duration.

Although a manufacturer can be assured that the sales of his product will be pushed more aggressively by a manufacturers' agent than by a wholesaler, it should not be forgotten that an agent will not equal the manufacturer's own selling organization in this regard. Consequently the agency distribution is not so well adapted to products that require extremely specialized sales effort together with highly technical service and instruction.

The manufacturers' agent can solidify and strengthen his position if he is wise enough to select, for his line, products so related as to appeal in general to the same type of customers. By so doing, he can reduce the number of unproductive calls and can, at the same time, increase the number of calls on any customer that can be made without causing annoyance. Case Studies in Business: *Harvard Business Review*, October, 1927, p. 95:5¾.

Books Received

Minimum Wage Legislation in Massachusetts. National Industrial Conference Board, New York, 1927. 243 pages. \$2.50.

Harmony Between Labor and Capital. By Oscar Newfang. G. P. Putnam's Sons, New York, 1927. 238 pages. \$2.00.

Cases on Business Law. By Leslie J. Ayer. Prentice-Hall, New York, 1925, 1926 and 1927. 474 pages. \$4.50.

How to Finance Home Life. By Elwood Lloyd, IV. B. C. Forbes Publishing Co., New York, 1927. 238 pages. \$2.50.

The Superfluous Man. By Milton W. Brown, M.A. Standard Publishing Co., Cincinnati, Ohio, 1927. 296 pages. \$2.00.

86% of America. Symposium. MacFadden Publications, Inc., New York, 1927. 70 pages.

An Analysis of over 3,000,000 Inquiries Received by 98 Firms From 2,339 Magazine Advertisements. Published by Daniel Starch, Ph.D., Cambridge, Mass., 1927. 43 pages.

Immigrants and Their Children, 1920. By Niles Carpenter. Bureau of Census,

Department of Commerce, Washington, D. C., 1927. 431 pages.

Auditing Theory and Practice. By Robert H. Montgomery, C. P. A. Ronald Press, New York, 1912, 1915, 1921 and 1927. 859 pages. \$6.00.

Survey of Books for Executives

Personnel Research in Department Stores. By the Staff of the Research Bureau for Retail Training, University of Pittsburgh, Pittsburgh, Pa., 1927. 254 pages. \$3.00.

To one who finds himself in the thick of personnel work in the department store field, the first reaction on reading this book is pretty apt to be a wish that he might be where he could avail himself of such a bureau as that in Pittsburgh. This feeling on the part of the reader is ample justification for the publishing of *Personnel Research in Department Stores*. If this thought is carried to its logical conclusion it cannot fail in stimulating interest in the research problems of personnel. It should, in fact, suggest what could be done through co-operation in several other communities.

Even to the casual reader it must be evident that this book is not so much a review of the procedure and methods of the Research Bureau, as it is an exposition of what can be accomplished in the field of personnel in department stores through co-operative effort.

Dr. Charters' introduction presents briefly the history of the development of the Research Bureau for Retail Training. To sum up the message which the Bureau has been developing since its beginning in 1918, we may rightly present it in the often-quoted words, "Know Thyself," and then add "Do Something About It." This slogan has the implication of an honest desire for truth, coupled with scientific procedure, carefully planned and accurately executed.

The first principle upon which the Bureau founded its work was that of practical research. By practical research Dr. Charters means that effort which is not content until it has analysed a problem, discovered weaknesses and installed and maintained adequate means toward a better procedure. This thought of developing all projects only upon the basis of an ultimately maintained procedure has undoubtedly led the Bureau to constant effort, and at the same time kept it from the danger of too hasty action. Other principles outlined in the introduction seem to be only corollary to the first one.

The fact that a school of limited enrollment has been a part of the Research Bureau, gives two valuable aspects to the work: First, it provides field workers; and second, it serves as an avenue for carrying the principles of research into a broader field as students find employment at the end of their courses.

As the title page indicates, the book is a report on studies carried on between 1918 and 1925 by the Bureau staff. Various chapters are written by different members of the staff. Each chapter is an exposition of some project in which the Bureau has co-operated. The method of presentation followed by the different writers is similar. There is a statement of the problem, an outline of preliminary and field work, and a frank statement of what was accomplished. It is not necessary to suggest more than a few of the problems undertaken. Material was prepared on "How to Sell at Retail," studies were made in the Case Method of

Instruction, a number of merchandise manuals was prepared. One chapter deals with a study of employee magazines. Considerable time was spent by the Bureau in studying problems of executive training.

Not only were studies made of different problems of merchandising departments, but several studies were made in non-selling departments. Two of the later chapters deal with psychological and merchandise information tests.

One of the points of strength and weakness of this book is the fact already mentioned that various chapters are written by different people. To one who reads the book from cover to cover this method introduces a certain amount of repetition in the exposition of methods. On the other hand, each chapter has a unity within itself, which is valuable in getting a clear, concise picture of the procedure as it was developed for each problem.

Anyone interested in personnel problems in the retail field cannot afford to pass this book by without reading it. It is stimulating, the practices which it presents are sound, and even the most conservative evaluation of the accomplishments of the Bureau should provide thoughtful executives in other large cities with inspiration toward reaping some of the benefits, in the future, which Pittsburgh merchants have participated in since the establishment of the Bureau in that city.

CHARLES H. PAULL, *Personnel Director,*
The Rike-Kumler Company.

Responsible Giving. By Mark M. Jones.
October 3, 1927. 22 pages.

Certain tests should be made by the givers or their immediate representatives, by community leaders or large givers if giving is to be rationalized and become responsible giving. These tests should produce such a result that the act of giving may by inference be accepted by persons without information regarding the work of an important organization as certification of an important giver that the work measures up favorably when tested on at least the following points:

1. The basic educational, social, religious, or economic problem with which the organization proposes to deal is clearly evident; it is in the interests of society that steps toward the solution of the problem become or continue to be the ends of organized effort, and among other social problems it is one of importance.

2. The purpose of the organization represents a practical aim; it is the outgrowth of an accurate analysis of the problem and the idea or ideas upon which it requires concentration give promise of facilitating sufficient progress toward solution of the problem to warrant the use of time and money to that end.

3. There is a definite five- to ten-year policy and the plans for the application of this policy for six months or a year ahead are stated in a carefully classified written program in which each separate project or unit of work is clearly described in relation to the problem or main aspect of the problem at which it aims.

4. There is a program-making procedure that assures at least an annual analysis of results and an annual revision of policies, which is followed in turn by adjustment of personnel and an annual reallocation of individual responsibilities, all for the purpose of more effectively executing the program of the year and the underlying five- or ten-year policy.

5. There is a definite understanding as to what will be considered results in the field of the organization and the necessary records have been provided and are maintained in a form that permits expansion and contraction according to variations in the program and with the view to assuring that basic information will be comparable in its main essentials, regardless of program variations, over a period of at least twenty-five years.

6. There is a system of organization which assures proper integration of primary and secondary projections and a subdivision of tasks which is in conformity with the principles governing division of labor.

7. The program is so planned that there will be no competition of wasteful nature with other organizations dealing with the same or similar problems and no duplication of the work of any other organization in the same movement.

8. The governing body is composed of competent and responsible persons who actually give attention to the problems of the organization; give time to its work; take an active part in formulating the five-year policy, in making the annual program, and in checking up the results of the organization's work; and maintain an active advisory relationship to those responsible for executing the programs as contrasted with a passive relationship which results in leaving primary responsibilities mainly to employed personnel.

9. There is a chief executive who is well qualified by training and experience; who has zeal for the task; who is concentrating upon the work of this one organization; who is not a pensioner; who is not bent on selfish ends; and who, in the case of the larger organizations, is skilled in laying out work to be done by others.

10. The cost of securing contributions is not excessive and the methods employed are in conformity with the most modern practice in the field of money raising.

11. Where the work of the organization permits steps toward management on a self-sustaining basis, reasonable progress is being made toward that end.

12. The policies, habits, and plans of the organization assure expenditures without extravagance.

13. The funds, accounts, and business affairs are managed in the most skillful possible manner and all necessary safeguards surround the receipt, custody, and disbursement of cash and the handling of securities.

14. The spirit and the letter of trusts, bequests, and designated gifts are adhered to.

15. There is a sound budget and accounting system based on the work of the organization and not on an attempt to use an

industrial system in a non-profit organization.

16. If the organization has been in existence for several years, there is a definite record of accomplishment in terms of progress toward the solution of the problem, in terms of success in the attainment of objectives set annually and in avoiding expenditures in excess of the income of any one fiscal year.

17. In the case of organizations which have been in existence for several years, it is clear that the purpose and program continue to present practical and economical means for the solution of the problem and that recently developed ideas which are being promoted by others do not give promise of more rapid or more economical progress towards its solution.

W. J. DONALD.

Second Report of the Board of Investigation and Coordination. I. Engineering Education—a Unified vs. a Divided Process. II. The Question of a Longer Engineering Curriculum. By The Society for the Promotion of Engineering Education, June, 1927, 20 pages.

This second report of the Board of Investigation and Coordination of The Society for the Promotion of Engineering Education has two main conclusions:

1. The engineering colleges in general may best fulfill their purpose by providing under their own auspices an educational program which is complete in itself and which may be entered direct from the secondary schools; that this type of program supplies the norm in engineering education; but that facilities should be afforded for the admission to advanced standing of students who desire a more extended general academic training before entering upon the study of engineering.

2. That it is advisable to preserve the usual distinction between undergraduate and post-graduate programs and that the undergraduate program should be self-contained and lead to a degree. Op-

portunity should be afforded and encouragement given to students of promise to extend their formal training by means appropriate to their aptitude, ability and choice of a career, such as the voluntary election of additional humanistic studies, the pursuit of post-graduate study in a fully qualified institution, or through orderly studies pursued in conjunction with engineering experience. Four years is regarded as the normal length of the undergraduate program. In many cases this program may be divided advantageously into two stages under the same supervision and both reasonably self-contained, in order to provide an intermediate goal and facilitate a selective process of admission to the upper years.

Aus dem Arbeitsleben Amerikas. By Dr. jur. Fritz Taenzler. Reimar Hobbing, Berlin, 1927.

Dr. Taenzler's volume is the latest of a lengthening list of books by European observers who have sought to find the secret of American economic ascendancy. The author is secretary of the Federation of German Employers' Associations. He visited the United States late in 1926 and studied a rather wide range of industries in various parts of the East and Middle West. His viewpoint is that of the reporter, and his evident purpose is to give German industrialists an objective account of American conditions as he found them. In this undertaking he has done a workmanlike job. This reviewer does not recall any recent European observer who has crowded as much information into as small a volume.

With true Teutonic thoroughness, Dr. Taenzler begins with the physical characteristics of the North American continent and progresses by easy stages to his real theme—labor conditions in the United States. Like other observers, he is impressed with the wage levels and the high living standards of American workingmen, but he avoids direct comparison with German wage scales. "The comparison of

wages in different countries is always a supremely difficult undertaking," he writes. "In fact, it is a question whether it is at all possible, with any degree of practical conclusiveness, to segregate wages from the whole of working conditions and make an international comparison." In particular, while admitting that real wages in America are considerably higher than in Europe, Dr. Taenzler points out that the American workman usually has to provide for himself many of the benefits which in Germany are taken care of through social insurance or other co-operative methods. The relative lack of social legislation in this country is in fact one of the points upon which the author finds room for adverse comment.

Dr. Taenzler studied the American labor movement, and his descriptions of the American Federation of Labor and of some of the more important trade unions are painstaking and generally accurate. An illuminating chapter on "Cooperation" discusses union agreements with employers, union management cooperation on the Baltimore and Ohio Railroad and in the clothing industry, and employee representation. A discussion of the closed and open shop ends with this observation:

"The observer of American working conditions receives the impression that in many cases the closed shop principle has in fact led to abuses of power by trade unions and thereby to industrial disadvantages to the business and to the public, and that such abuses are even yet to be found. On the other hand, it must be admitted that the leaders of the Federation of Labor, in the wise belief that the trade unions must be supported by the sympathy of public opinion, oppose such manifestations and especially are convinced of the industrial harmfulness of restriction of output. In this they are supported by a number of the trade union leaders, especially the younger ones, who represent the modern or new unionism. If these succeed in carrying out their ideas, the question of the open or closed shop will have lost much of its significance and also much of its bitterness.

Dr. Taenzler devotes some space to a discussion of organizations which he considers employers' associations, but he finds that these organizations are not strictly comparable with those in Europe, because the larger American corporations formulate their own labor policies and conduct their own negotiations with employees. He mentions the United States Chamber of Commerce, the National Association of Manufacturers, the National Industrial Council, the National Industrial Conference Board, and several other representative organizations. The work of the American Management Association is described briefly, but with approval.

The author was much impressed with stock ownership by employees, as developed in representative American corporations. He believes that "a scientific investigation and a practical trial of stock distribution to employees would prove the possibility and advantage of this kind of cooperation also with us."

German readers interested in American industry will find in Taenzler's book a veritable mine of facts; to us in the United States, it is an interesting sidelight on our economic life as viewed by a discriminating and sane-minded reporter.

E. S. COWDRICK.

The Claim Agent and His Work. By Smith R. Brittingham. Ronald Press, New York, 1927. 463 pages. \$6.00.

A very interesting, as well as instructive book has been written by Smith R. Brittingham. In it Mr. Brittingham points out the requisite qualifications of the work of the claim agent. He makes clear the education, natural ability and experience necessary in the adjustment of claims. Every phase of this vocation is thoroughly covered.

Although Mr. Brittingham writes mainly from the viewpoint of the claim agent for steam railroads, the principles and opinions set forth by him are applicable to the investigation or adjustment of claims for all public utilities.

His treatment of the monetary value of

life, principles of investigation, releases, statistical method in claim agency and psychology in investigating and settling claims, is particularly interesting and valuable and will confirm the knowledge of those who have had years of experience and will be a guide and authority for those learning the difficult art of investigating and adjusting claims.

Everyone engaged in any kind of claims work should study this book.

J. R. McNARY,

*Manager of Adjustment Department,
Pittsburgh Railways Company.*

Introduction to the Mathematics of Statistics. By Robert Wilbur Burgess, Ph.D. Houghton Mifflin Co., Boston. 1927. 304 pages \$2.50.

The book furnishes a good review of the most common and comprehensible methods of statistical analysis. The material is on the whole well chosen and arranged in a series of increasing difficulty. This treatment, of course, precludes a strictly logical arrangement and requires the author to refer to concepts which are reserved for later development.

Approximately half the book is written with the non-mathematical reader in view. In spite of this aim, the presentation is occasionally too condensed to be followed by a layman without considerable effort. This part of the book includes all the more familiar ways of summarizing statistics, with extensive numerical examples. Various graphic methods of presenting frequency distributions are given, their analytic properties being postponed to a later chapter.

The second portion of the book presumes a more advanced mathematical background. The treatment is largely analytic although numerical illustrations are used freely throughout. This part of the book includes a brief review of the theory of probability with especial reference to the normal curve of error and to probable errors. There is also a careful discussion of correlation both for two variables and more.

The author includes a bibliography of more technical writings. A table of ordinates and areas of three gamma curves and the normal curve of error, seems superfluous in view of the scant attention paid to curve fitting.

Probably the book will be more valuable as a text-book for class-room work than for the independent student, particularly one whose mathematical background is deficient.

JONATHAN G. SHARP,
Woodward, Fondiller and Ryan

Public Utility Finance. By Walter E. Lagerquist. A. W. Shaw, Chicago, 1927. 671 pages. \$7.50.

An industry which has grown at the pace of the utility industry and in which an even larger expansion is now going on (the present additional annual capital requirements being more than a billion dollars) offers important and complicated financial problems. It is fortunate, then, that Mr. Lagerquist, Counsellor on Investments, American Exchange Irving Trust Company, New York City, should compile and organize this material "to study the character of the facts which must be examined and the methods which must be used in making a financial analysis of a public utility."

It is even more fortunate that the Institute for Research in Land Economics and Public Utilities, sensing a more general interest in the study of public service industries, and recognizing the fact that although there exists a large amount of valuable material, it is not generally available or in such form that it can be turned to conveniently by executive, research worker, or student, has arranged for the publication under the editorship of Professor Ely and Assistant Professor Derau of this volume on finance as one of a complete series of "Materials for the Study of Public Utilities" planned to continue with volumes on public utility economics, regulation, labor, accounting, operation and management, and rate making.

Inasmuch as this volume for the greater

part simply compiles and organizes material which has appeared in pamphlet form, in the technical and trade press, in proceedings of the conventions of utility associations, in governmental reports, etc., during the past 15 or 20 years, it covers but little new ground. No claim in this direction need be made for it, however, because to have been able to collect, select, arrange in logical sequence, secure permission to reprint and write chapters or portions of chapters here and there to make the analysis more complete is to have done quite a monumental job.

The subject matter of the text can be grouped roughly into six main divisions; (1) Chapters I to IV deal with organization; (2) chapters V and VI cover the general characteristics of utility securities, the fundamentals of the mortgage; chapters VII to XIV treat of the capitalization structure, capitalization of the fixed property requirements, the regulation of public utility capital, the market for public utility securities, and customer ownership; (3) chapter XV presents the plan and outline of investigations; (4) chapters XVI and XVII outline the centralization of the power supply and the diversity factor; (5) chapters XVIII to XXIII cover the problems of operation, including operating expenses and costs, depreciation, utility surplus and reserves; (6) chapters XXV and XXVI discuss the special problems of public utility barometrics, budgets, and taxation.

As to the physical make-up, the arrangement is topical, as has been indicated; the typography is splendid; the paper is dull coated. Few typographical errors were noticed. Charts, graphs and tables are quite profuse and are inserted appropriately. There is an index and an effective table of contents which to the extent that it names contributors,—leaders of the industry, investment bankers, professors, lawyers, accountants and others,—is also a bibliography. Copious footnotes cite numerous additional references.

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